

## INDUSTRIAL CONTROL SYSTEM

B ABSTRACT OF THE INVENTION

A control system (10) controls transfer of electronic signals to and from industrial and scientific equipment. The control system includes a real-time database (60) for storing data elements which may be accessed by a plurality of tasks (62, 64, 66, 68, 70, and 72). Each data element in the real-time database (60) has an associated changed status flag for each task which indicates whether the value of the element has changed since the last access by the task. Individual tasks must communicate through the real-time database, since no inter-task communication is supported. The tasks support bidirectional communication with industrial and scientific equipment, alarm supervision, data logging, real-time clock functions, mathematical and logical functions, and interactive operator communications.

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